

A New Simuliid from South Africa

by

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Simulium gariepensis sp.nov. (Fig. 1a, b, c, d, e, f, g)

Female. A small black insect clothed with silvery scales, mesonotum with three dark stripes, calcipala absent and base of the radius bare. *Head*, face and frons black with silvery scales; antenna black; mandibles with seven outer and about twenty-two inner teeth; maxillae with fourteen inner and seven outer teeth. *Thorax*, greyish with three dark stripes and clothed fairly evenly with silvery scales; scutellum dark, provided with silvery scales and long silvery hairs. Pleura blackish, without a scale patch. *Legs*, black with silvery scales, hind basitarsus not swollen, cuticle a shade paler than in the rest of the legs; calcipala absent, pedisulcus marked; claws of all legs with a prominent basal tooth. *Wings*, base of radius and subcosta bare; hair patch at the base of the radius pale. Halteres with pale reddish crowns. *Abdomen*, black, densely clothed with silvery scales especially laterally, apically the scales slightly less dense. *Terminalia*, eighth sternite with a shallow depression, gonapophyses rounded, membranous and practically invisible in macerated specimens. Spermatheca very dark, nearly spherical, surface smooth and apparently bare internally.

Male. Only spirit specimens available and in these uniformly dark as in the female. Hind basitarsus a shade paler than the rest of the leg segments, parallel-sided; calcipala absent, pedisulcus marked. Base of the radius bare. *Terminalia*, style shorter than coxite, expanded and with a single tooth apically; coxite short and broad; ventral plate thin, membranous, very broad, deeply excavated medially, basal arms prominent and projecting at an angle from the plate; parameral hooks of two large teeth, membrane densely spiculate; median sclerite poorly developed, somewhat irregular in outline but essentially parallel-sided.

Pupa. Operculum with simple hair-like trichomes and small pale tubercles. *Thorax*, with large branched trichomes and a few pale tubercles. *Respiratory organ*, of three long subequal tapering filaments liberally supplied with nodules. *Abdomen*, cuticle very pale and membranous; dorsally with the usual rows of strong hooks on segments 3 and 4; segments 7, 8 and 9 devoid of the usual backwardly directed rows of spines; terminal segment with a pair of strong backwardly directed blunt processes; ventrally segment 5 with one pair of bifid spines and segments 6 and 7 each with two pairs of such spines of which one or more may be simple. *Cocoon*, feebly constructed and easily damaged; in perfect specimens, which are

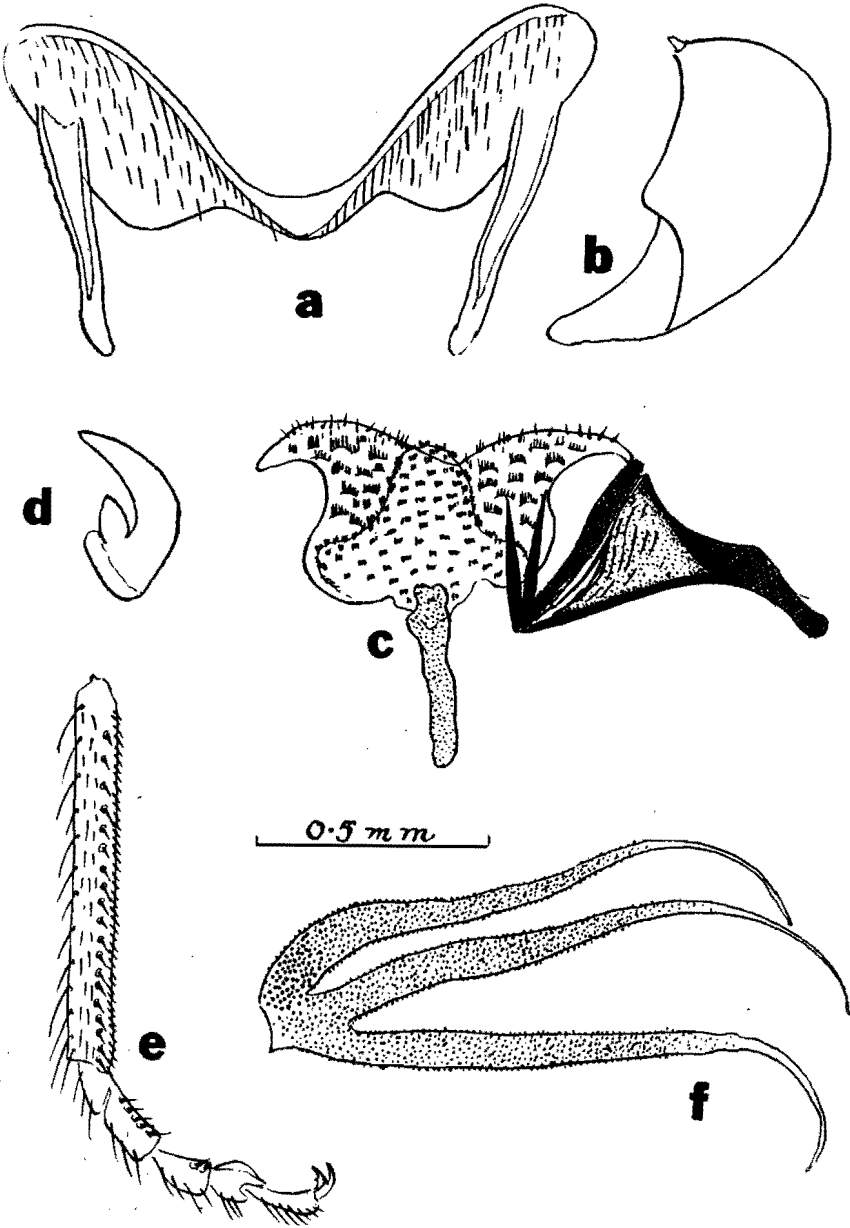


Fig 1

rare, with a rather prominent lower lip as illustrated; entirely covered with small sand crystals in all specimens recovered. The cocoons are of such a fragile nature that it was found impossible to remove them from stones without injury to the enclosed pupae. Pupae contained an intense red pigment which was noticeable in intact specimens fixed to the stones.

Holotype ♂, paratypes 3 ♂♂, 7 ♀♀, Luckhoff, Orange Free State, May, 1953.

Habits. The adult females were first seen swarming in large numbers on the farms Gannapan and Eldorado about 13 miles from the Orange River near Luckhoff. They settled freely but momentarily on human beings, horses and cattle but as far as could be ascertained no biting took place. Females in active flight were approximately evenly distributed over a large part of the countryside and the actual total population must have been enormous. A few males were taken at light. On the farm Gannapan is a large pan of water inhabited by numerous wild duck, geese and waterfowl of many descriptions. On the veld African blue cranes, sacred and other species of ibis, bustards and other land birds were seen in numbers. These may have formed the main source of food supply of the females.

Pupae were found at the Havenga Bridge over the Orange River some 15 miles from Luckhoff. They were collected in small numbers on stones in fairly swift current just under the bridge. Elsewhere the water was flowing smoothly and slowly between sandy banks and over muddy bottom. It is quite obvious that the sole breeding place found could not possible account for the large numbers of adults so densely spread over the countryside for miles around. It is possible that like its relative *griseicollae* Becker, 1903, it breeds on the bottom mud but this was not noted. Since the season was late and the weather cold, breeding may have been at a low ebb. Local farmers declare that the river for miles up and down stream is particularly free of cataracts, stony races or vegetation.

Identification. This species is obviously related to *griseicollae* which is known from Anglo-Egyptian Sudan, Uganda and Belgian Congo. It shares with that species a character unique amongst Ethiopian simuliids namely, absence of setae from the basal section of the radius. It differs from all other species of Ethiopian *Simulium*, including *griseicollae*, in the absence of calypala. Other details separating it from *griseicollae* are: character of the parameral hooks of the male terminalia, abdominal scaling in the female and shape of the filaments of the pupal respiratory organ.

In my experience *garipeensis* is the only other Ethiopian simuliid which approaches *griseicollae* in its swarming habits. Unfortunately mud-breeding could not be confirmed though I strongly suspect that *garipeensis* indulges in this too.

Figure 1. *Simulium garipeensis* sp. nov. a. male ventral plate. b. male style. c. male paramere, parameral hooks, spiculate membrane and median sclerite. d. female hind claw. e. female hind leg. f. pupal respiratory organ.